INTERPOL BALLISTIC INFORMATION NETWORK

HANDBOOK ON THE COLLECTION AND SHARING OF BALLISTIC DATA

Second Edition
2012

CONTENTS

PART 1: GENERAL INFORMATION

INTERPOL 6

INTRODUCTION 7

INTERPOL FIREARMS PROGRAMME 9

PART 2: BALLISTICS ON THE INTERNATIONAL STAGE

INTERPOL BALLISTIC INFORMATION NETWORK (IBIN) 14

INTERPOL CHARTER 17

IBIN STEERING COMMITTEE 30

PART 3: OPERATING WITHIN IBIN

A GUIDE TO USING THE IBIN NETWORK 33

BEST PRACTICE FOR LAUNCHING IBIN CORRELATIONS 34

BEST PRACTICE FOR CASES WITH AN UNKNOWN OCCURRENCE DATE 41

BEST PRACTICE FOR CREATING DOUBLE-CASTS (DRAFT) 45

CERTIFICATE OF AUTHENTICITY OF CASTING PROCESS & PROCEDURES 66

IBIN COMMUNICATION FLOW 67

REPORTING TO IBIN 68

PART 4: ADDITIONAL RESOURCES

LINKS 72

INTERNATIONAL 72

REGIONAL 73

NATIONAL 77

NGO'S 78

PRIVATE SECTOR 80

PUBLICATIONS 80

ACKNOWLEDGMENTS 81

PART 1

GENERAL INFORMATION

PART 1: GENERAL INFORMATION
INTERPOL

The International Police Organization (INTERPOL) is the world's largest international police organization, with 190 member countries. Created in 1923, it facilitates cross-border police co-operation, and supports and assists all organizations, authorities and services whose mission is to prevent or combat international crime. INTERPOL aims to facilitate international police co-operation even where diplomatic relations do not exist between countries. By charter, INTERPOL member countries set up and maintain National Central Bureaus(NCBs). The NCBs are normally comprised of the National police authority in each member country, but can also have staff from several police agencies according to the member country's structure. The NCBs are connected to the General Secretariat through the I-24/7 Network and provide the primary conduit for investigative inquiries and responses.

INTERPOL has identified four core functions on which to concentrate its efforts and resources:

Secure global police communications services – accomplished by way of I-24/7, INTERPOL's secure global police communications system.

Operational data services and databases for police – INTERPOL manages a range of databases with information crucial to international criminal activity, which can lead to the dissemination of critical crime-related data through one or more of the seven kinds of notices.

Operational police support services – With the 24-hour Command and Co-ordination Centre, INTERPOL can assist any member country on any of the six priority crime areas recognized by INTERPOL: corruption, drugs and organized crime, financial and high-tech crime, fugitives, public safety and terrorism, and trafficking in human beings.

Police training and development – INTERPOL provides focused police training initiatives for national police forces in order to enhance the capacity of member countries to effectively combat serious transnational crime and terrorism.

The INTERPOL Ballistic Information Network (IBIN) serves all four of these functions in some capacity.

PART 1: GENERAL INFORMATION
INTRODUCTION

"Small arms and light weapons destabilize regions; spark, fuel and prolong conflicts; obstruct relief programmes; undermine peace initiatives; exacerbate human rights abuses; hamper development; and foster a "culture of violence"

- United Nations Office for Disarmament Affairs

Firearm crimes bleed over into other crime areas. Almost every crime committed today utilizes firearms to some degree. Firearms are used in theft, murders, kidnappings, organized crime, the drug trade, and much more. Furthermore, in a global society that continues to breakdown physical and virtual barriers between countries, criminal activity becomes more and more international each day. The murder weapon from a shooting in one city often ends up in another city, country, or continent. As criminals find easier ways to jump borders, police from around the world are increasingly hampered by national boundaries, unable to follow criminal leads outside of their jurisdictions. The obstacles that borders present impede law enforcement officials from tracking down crucial evidence needed to locate, arrest, and convict criminal masterminds. Indeed, from corruption and organized crime, to human trafficking and terrorism, firearms and their related evidence know no borders. In 2008, INTERPOL participated in a teleconference wherein a consensus agreement was reached among 28 ballistic experts representing 14 countries as to the need for an international ballistic data sharing network. Participants included representatives from the United States, Canada, the United Kingdom, South Africa, Australia, Kosovo, Austria, Greece, Netherlands, Denmark, Italy, Kenya, Namibia, Botswana, and Croatia.

In addition, a survey was conducted asking the same question during Spain's Presidency of the European Union. With 28 countries responding, 80% stated that there is a need for European ballistic data exchange, the installation of such a system would result in an improvement of crime fighting capabilities, and they are willing to cooperate with other European laboratories.

As you will discover by reading this manual, INTERPOL has taken a giant leap towards breaking down the barriers of combating international criminal activity by establishing IBIN. Powered by the IBIS® Correlation Server at INTERPOL Headquarters in Lyon, France, IBIN is the only large-scale international ballistic data sharing network in the world.

Using IBIN, law enforcement officials can provide, request, and exchange crucial evidence on open cases that have the potential to span across several countries. Being as the majority of crimes involve firearms, and adding in the fact that firearms often leave behind trace evidence such as bullets and shell-casings, IBIN can exchange ballistic evidence among member states with the goal of establishing connections and links between critical pieces of evidence from multiple countries. By connecting ballistic evidence from multiple countries police have the potential to expedite tracking down and stopping criminal activity that had previously evaded capture by the law because of its international element of operation.

This user manual for IBIN has been assembled and edited for the benefit of IBIN system users. With this manual in hand, an IBIN user can explore the history of the IBIN program and the thought process leading to its inception. This manual is also a guide to getting involved with the program, providing information on how to join the network and maintain membership. Most importantly, this manual is a handbook on how to use IBIN, allowing users to operate the network at the highest level of potential.

PART 1: GENERAL INFORMATION
INTERPOL FIREARMS PROGRAMME

A threat to the safety of citizens in any country, firearms also pose a wider threat to security, peace, stability and development. Firearms are easy to conceal and transport, and offer lucrative profits to criminals trafficking in illicit small arms and light weapons. No country is unaffected by firearms violence. While each year, firearms are used in more than 245,000 homicides worldwide (excluding war-torn countries), this is only a small percentage of all crimes committed with firearms, which are widely used to threaten and support other criminal acts.

To support police officers responsible for investigating firearms-related crimes, INTERPOL offers powerful tools which can help member countries obtain firearms intelligence - using the information on the outside of the firearm and the data that can be gleaned from inside the weapon - to prevent and solve crime. The following pages introduce these tools accessible on the INTERPOL I-24/7 Network:

The INTERPOL Firearms Reference Table

The INTERPOL Firearms Trace Request (to be consolidated within the INTERPOL Stolen and Lost Firearms System (SLARM) slated for completion at the end of 2012),

The INTERPOL Firearms Identification On-line Training, and

The INTERPOL Ballistic Information Network. This manual is devoted to best practices for IBIN.

INTERPOL Firearms Reference Table

The INTERPOL Firearms Reference Table (IFRT) gives investigators the ability to properly identify a firearm used in a crime, thereby increasing the probability of successfully tracing the firearm's origin. With an I-24/7 users' account, the IFRT can be found within the pages dedicated to "Weapons and Explosives".

The IFRT is an easy-to-use, web-based reference database containing more than 250,000 firearms references and 57,000 high quality images. Using the IFRT, investigators can identify the make, model, calibre, serial number and country of origin or legal import of a firearm. This information is essential in using the related tool, the **INTERPOL Firearms Trace Request**.

The IFRT was developed by INTERPOL using data supplied and updated annually by the Royal Canadian Mounted Police. Firearms experts using the database are encouraged to submit additions for inclusion to the IFRT if a known firearm is not found within the database. In such a case, an expert can submit the information to INTERPOL, including detailed and close up photographs of the firearm and pertinent characteristics of the firearm from several angles.

INTERPOL Firearms Trace Request

The INTERPOL Firearms Trace Request is an international communications tool that allows an investigator to request a firearm's ownership history from the country of origin or legal import. The Firearms Trace Request was created in recognition of the need to give law enforcement a tool to combat firearms violence, as outlined in the United Nations 2005 Protocol on firearms, which called for "…an International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons."

The Firearms Trace Request is sent from an INTERPOL National Central Bureau (NCB) in the country where a firearm was seized to the NCB of a country where the firearm was manufactured or legally imported (import marks must appear on the firearm). Users can access the Firearms Trace Request through the I-24/7 Network.

The INTERPOL Firearms Identification On-line Training

Authorized users can access an online firearms identification training course via INTERPOL's restricted website. Made up of several modules, this course is designed to give users an understanding of the composition, assembly, function and identification of all types of firearms: knowledge that is fundamental to any investigation involving firearms.

PART 2

BALLISTICS ON THE INTERNATIONAL STAGE

PART 2: BALLISTICS ON THE INTERNATIONAL STAGE

INTERPOL BALLISTIC INFORMATION NETWORK

Every firearm leaves unique microscopic markings on the surface areas of fired bullets and cartridge cases; a sort of "ballistic fingerprint." By utilizing technology that can read and catalogue these ballistic fingerprints, such as Forensic Technology's **Integrated Ballistics Identification System (IBIS®)**, users are able to share and compare thousands of ballistic exhibits in a matter of hours within national boundaries.

IBIN is a platform for the large-scale international sharing and comparing of ballistics data. In partnership with Forensic Technology, this network connects member countries or territories that use IBIS and enables the cross-border exchange of ballistic data, taking the IBIS system from the national to the international level.

Just as fingerprint data can link crimes and criminals across international borders, so too will the international sharing of ballistic data. IBIN will find connections between separate crimes that would otherwise have gone undetected. Over time, we anticipate the analysis of the shared ballistic data will reveal illicit firearms trafficking routes and provide police with critical information about firearms traffickers and other violent criminals.

Who Participates in IBIN?

All INTERPOL member countries can participate in IBIN. If a member country has the IBIS technology, they can directly connect to IBIN once the IBIN Participation Agreement is executed by the NCB and the National laboratory. A copy of the agreement can be found in the following pages. Should a participating country of IBIN want to leave the programme at any time, all of submitted ballistic data from that country must exit the network as well.

Countries without the IBIS technology or who have a different ballistic technology can still benefit from IBIN's reservoir of international ballistic data by initiating an **IBIN Transmittal of Double-Casted Ballistic Evidence.** Through this service, test fires or double-casts of ballistic evidence can be sent to the INTERPOL General Secretariat in Lyon, France. There the exhibit(s) will be processed for entry into

IBIN, a correlation will be performed, the correlation results will be reviewed, and reported back to the submitting country. Other than the cost of shipping, there are no fees associated with this service. The procedure for submitting exhibits for entry into IBIN is as follows:

1. Test fire the weapon in question or, if the exhibits are from a crime scene, use the double-casting techniques outlined in the chapter **Best Practice for Creating Double-Casts** to create casts of the evidence.

2. Complete the **Casted or Test Fired Ballistic Evidence Transmittal Form.**

INTERPOL BALLISTIC INFORMATION NETWORK

Casted or Test Fired Ballistic Evidence Transmittal Form

This form is to accompany double-casts and test fires of ballistic evidence between an INTERPOL member country, the General Secretariat, and an IBIN member site where the acquistions and analysis will take place. The purpose of the form is to ensure that all submitted exhibits remain accounted for throughout the process. Please attach your official laboratory report and return the completed documents to the INTERPOL Firearms Programme via electronic mail.

Date & Reference No.	From:	To:	Description:	Request:	Action/Misc.:

INTERPOL
200 Quai Charles de Gaulle, 69006
Lyon FR

Phone: +33(0)4 7244 7392
Fax: +33 (0) 47244 7351
E-mail: t.hite@interpol.int

3. Contact your local INTERPOL NCB and inform them that you have ballistic exhibits that you wish to submit for entry to IBIN.

4. Send the exhibits to your NCB, who will then forward them to the INTERPOL General Secretariat. Include the following information in a separate memorandum:

- Which regions or countries within IBIN would you like the exhibit(s) searched against? (Where does the investigative information and intelligence lead?)
- Will you need the exhibits returned to you?
- What was the offense?
- Is there a time constraint? (Is there a defendant in custody?)
- What was the date of occurrence of the offense?
- Is the date of the occurrence unknown?
- Were there additional bullets or cartridge cases recovered that have not been submitted?

Once the exhibits have been correlated against IBIN, you will be contacted by an INTERPOL IBIN representative regarding the search results.

What are the Benefits of IBIN?

The IBIS technology has provided countries with the ability to detect links between previously unknown crimes on a national scale. IBIN allows police to detect these links on an international arena. By joining IBIN, member countries become part of an international network, giving participating countries the opportunity to search their ballistic data against that of another IBIN participating country. Bullets fired from the same gun used in multiple countries, and can be searched (correlated) with data from other countries. Hits within IBIN can provide essential leads to locate connections between crimes and crime scenes in other countries and in the locating of criminals that escape prosecution by jumping borders. Over time, as IBIN grows, IBIN will also provide statistics and intelligence about the movement of illicit firearms.

INTERPOL CHARTER

INTERPOL Ballistic Information Network Participation Agreement

Implementing rules for the

INTERPOL Ballistic Information Network

September 2009

CONTENTS

DEFINITIONS 19

AUTHORIZED ENTITY 19

AUTONOMOUS DATABASE 19

CASE INFORMATION 19

BALLISTIC DATA 19

IBIN CORRELATION REQUEST 19

OFFENCES 20

PREAMBLE 21

ROLE AND FUNCTION 23

RESPONSIBILITIES 24

APPLICATION 26

ACCESS 26

DATA PROCESS 26

AUTHORIZED ENTITY - SPECIFIC INFORMATION 26

CAVEATS 27

PARTICIPATION AGREEMENT 28

DEFINITIONS

Authorized Entity

An authorized entity means an entity authorized to access a police information system directly, as defined in Article 20.1 (a) of the RPI.

Autonomous Database

An autonomous database means a specialized database not linked to the central database by an indexing system as defined in Article 6.1 (b) (3) of the Rules on the Processing of Information for the Purposes of International Police Co-operation (RPI).

Case Information

Case information means additional information linked to ballistic evidence and includes:

- Country of origin NCB reference
- Law agency name
- Event type
- Occurrence date
- Case reference number
- Law agency

Ballistic Data

Ballistic data means the digital images of discharged bullets and cartridge cases.

IBIN Correlation Request

An IBIN Correlation Request is the act of electronically comparing a digital image or cartridge case in IBIN.

Offences

The INTERPOL Ballistic Information Network has implemented the following offence codes to assist with investigations and with keeping the necessary statistics:

- **Person Offence**

  Assault

  Kidnapping

  Murder

  Paedophilia

  Sexual assault

  Other person offence

- **Property Offence**

  Armed robbery

  Burglary

  Extortion

  Robbery

  Theft

  Other property offence

- **Specified Offence**

  Drug offence

  Environmental crime

  Explosives / Weapon

  Financial crime

  Money laundering

  Terrorism

  Trafficking in human beings

  Other specified offence

PREAMBLE

Considering Article 2 of the Organization's Constitution, which provides that its aims are to ensure and promote the widest possible mutual assistance between all criminal police authorities within the limits of the laws existing in the different countries and in the spirit of the "Universal Declaration of Human Rights", and to establish and develop all institutions likely to contribute effectively to the prevention as well as the suppression of ordinary law crimes,

Considering Article 3 of INTERPOL's Constitution, which forbids the Organization from undertaking any intervention or activities of a political, military, religious or racial character,

Deeming that the processing of information constitutes an essential tool for co-operation between all the INTERPOL member countries, thereby allowing the Organization to fulfil its mission,

Bearing in mind Article 26(c) of the Organization's Constitution, which provides that the General Secretariat shall serve as a technical and information centre, and thus be responsible for processing police information,

Also bearing in mind that the processing of information by the General Secretariat (within the Organization's buildings and premises) is not subject to any national laws,

Considering that under the terms of Article 8(b) and (d) of the Constitution, the General Assembly is empowered to determine principles and lay down the general measures suitable for attaining the objectives of the Organization as given in Article 2 of the Constitution, and to determine any other regulations deemed necessary,

A principal role of INTERPOL is the efficient and safe transfer between law enforcement agencies of police information appropriate to developments and applications of police investigations and reflected in the second of INTERPOL's core functions.

To advance international police co-operation in the use and exchange of ballistic data using the Integrated Ballistics Identification System (IBIS®). INTERPOL has introduced a direct access autonomous database to compare ballistic data across international borders.[1]

INTERPOL provides an ideal platform for replicating and correlating ballistic data by enabling each INTERPOL member country to retain ownership of its data, control deletion and disclosure, and ensure international access to the benefits of ballistic comparison.

This INTERPOL Charter – INTERPOL Ballistic Information Network Participation Agreement has been developed to provide a legal framework for this specialized data transfer.

1 Articles 6.1 (b,3) and 21(a) – RPI.

ROLE AND FUNCTION

The INTERPOL Ballistic Information Network Participation Agreement enables INTERPOL member countries using the Integrated Ballistics Identification System technology to submit ballistic data to a centralized database for effective cross-border comparison enabling international 'cold hits' while providing maximum flexibility and security.

The transfer of ballistic data and correlation requests as provided for under this IBIN Participation Agreement will be conducted in accordance with INTERPOL's Rules on the processing of information for the purposes of international police co-operation, other documents referred to by these Rules and INTERPOL's Security Charter.

Ballistic data held by the General Secretariat is in accordance with the above-mentioned Rules. INTERPOL will not retain any nominal data linking ballistic evidence to any individual and there is no connection between INTERPOL's Criminal Information System (ICIS) and the autonomous IBIN.

Participating INTERPOL member countries may access IBIN electronically by submitting ballistic data or requesting correlations in accordance with defined ballistic rules.

RESPONSIBILITIES

The rules on the processing of information for the purposes of international police co-operation require the adoption of implementing rules[1] that govern the operation of and access to an autonomous database by an authorized entity.

The INTERPOL Charter – INTERPOL Ballistic Information Network Participation Agreement sets out the implementing rules for the use of and access to IBIN located at the General Secretariat. . An authorized entity must enter into an IBIN Participation Agreement with the Organization before authorization may be granted[2] and upon notification by the General Secretariat, existing authorized entities may oppose a new authorized entity accessing or downloading information from IBIN. [3] Authorized entities must adhere to all operational guidelines as outlined in addendum I.

INTERPOL member countries retain ownership of their ballistic data and through IBIN have direct control of submission, access and deletion in accordance with their national legislation. IBIN will automatically generate correlation reports for all IBIN correlation requests.

National Central Bureaus (NCBs) of participating member countries agree to provide I-24/7 access to forensic lab personnel where feasible.

To enable further inquiries, an INTERPOL member country notified of a potential match may communicate or request additional information to or from another country, subject to any restriction imposed by the relevant national laws.

To aid international ballistic data sharing and promote effective cross-border comparison, INTERPOL requires ballistic data submitted to IBIN be processed in accordance with national legislation of the contributing INTERPOL member country and in conformity with international conventions to which that country is a party, and with the INTERPOL Constitution. [4]

1 Article 10.1(e) - RPI.
2 Article 21(b) - RPI.
3 Article 5(b) - RPI.
4 Article 10.1(a) - RPI.

In addition, INTERPOL recommends that ballistic data submitted to IBIN is analyzed by an authorized laboratory, and where an investigation of a potential match so requires, a casting or additional test-fire can be obtained for analysis by forensic experts in the requesting jurisdiction.

Upon request, the General Secretariat will report on numbers of ballistic records held, matches reported and, if informed, the outcome of any further investigations.

5.1. ACCESS

Access to the IBIN server is through INTERPOL's Ballistic Information Network. Only authorized entities may access INTERPOL's Ballistic Information Network.

Authorized entities intending to submit ballistic data to IBIN in accordance with their legal requirements are first required to sign an IBIN Participation Agreement.

This access control applies to all submitted ballistic data.

5.2. DATA PROCESS

The INTERPOL Ballistic Information Network has been designed to provide the opportunity for international ballistic data correlation. Authorized entities may add ballistic data directly to the autonomous database. Authorized entities may initiate a correlation search against the ballistic data.

5.3. AUTHORIZED ENTITY - SPECIFIC INFORMATION

Prior to becoming an authorized entity, INTERPOL member countries are required to enter into a written agreement to:

- Ensure compliance with the rules governing the processing of information for the purposes of international police co-operation.[1]
- Accept and apply the implementing rules contained in the INTERPOL Charter – INTERPOL Ballistic Information Network.
- Sign an INTERPOL Ballistic Information Network Participation Agreement.

1 Article 21(b) - RPI.

- Recognize that cross-border ballistic data comparison can only be carried out if reciprocal access is granted.

- Accept responsibility for the integrity of their data, its submission and deletion.

- Recognize that the General Secretariat will not permit downloading[1] of INTERPOL member countries' ballistic data from IBIN to another authorized entity unless express written permission is provided to the General Secretariat by the source INTERPOL member countries.

- Recognize that upon deletion initiated by an INTERPOL member country, ballistic data and any links made by potential matches will be destroyed. Under this provision, when an INTERPOL member country deletes ballistic data, INTERPOL may only retain submitted case information[2] which is sufficient to identify the country source and type of crime for statistical purposes only.

- Recognize that there is no link between the INTERPOL Criminal Information System (ICIS) and the INTERPOL Ballistic Information Network (IBIN). Therefore, when an INTERPOL member country requests deletion of information recorded by the General Secretariat, a separate deletion through IBIN is required from the source INTERPOL member country to delete ballistic data held in IBIN.

5.4. CAVEATS

When INTERPOL member countries are notified of a potential match, the contributing countries may then determine whether they release further information pertaining to the specific ballistic data. INTERPOL member countries provided with ballistic data from another INTERPOL member country in this manner will comply with the disclosure rules applied by the contributing INTERPOL member country.

1 Mass data transfer from the General Secretariat to an authorized entity.
2 Article 3.2(a) - RPI.

PARTICIPATION AGREEMENT

INTERPOL's Constitution and the rules relating to information processing permit the use of autonomous databases for the recording of police information by authorized entities.

INTERPOL's Ballistic Information Network, which is an information management system designed to enable cross-border ballistic comparison, operates through an autonomous database allowing direct entry by authorized entities.

The INTERPOL Charter – INTERPOL Ballistic Information Network Participation Agreement details the operational functions and implementing rules for international ballistic sharing and correlation through INTERPOL. INTERPOL member countries that decide to have access to this database must first sign a written undertaking. The text is given below:

"This is a written undertaking in accordance with the Rules on the processing of information for the purposes of international police co-operation between INTERPOL (hereinafter referred to as the General Secretariat) and _____ _____(Entity Title) (hereinafter referred to as the authorized entity) to activate the authorized entity's status to the INTERPOL Ballistic Information Network for the said authorized entity.

On behalf of the authorized entity, I the undersigned, declare that:

- The authorized entity will ensure compliance with the rules governing the processing of information for the purposes of international police co-operation.
- The authorized entity will adhere to all operational guidelines as outlined in addendum I.
- The authorized entity will apply the implementing rules contained in the applicable INTERPOL Charter – Ballistic Information Network Participation Agreement.
- The authorized entity accepts responsibility for the integrity of its data and its submission and deletion.

- The authorized entity undertakes to respect any restrictions that may be imposed by the sources of information vis-à-vis other INTERPOL member countries.
- The authorized entity will specify international access rights (country and index) to enable the comparison of ballistic data between INTERPOL member countries with which it authorizes to share this information.
- The NCB of the authorized entity will provide I-24/7 access to forensic lab personnel where feasible.

On behalf of the authorized entity, I the undersigned, accept and understand that:

- The General Secretariat will not permit downloading of an INTERPOL member country's ballistic data from INTERPOL Ballistic Information Network to another authorized entity unless that INTERPOL member country gives its express written permission for such downloading.
- Upon INTERPOL member country request, deletion of ballistic data and any links made by potential matches will be destroyed. Under this provision, when an INTERPOL member country deletes ballistic data, the General Secretariat may only retain submitted case information sufficient to identify the country source and type of crime for statistical purposes only.
- There is no link between ICIS and IBIN. Therefore, when an INTERPOL member country requests deletion of information recorded by the General Secretariat, a separate deletion instruction sent via IBIN is required from an INTERPOL member country, to delete ballistic data held in IBIN.

Date: Signature:

Name of Signature Holder:

Official Position:

INTERPOL Member Country:

PART 2: BALLISTICS ON THE INTERNATIONAL STAGE
IBIN STEERING COMMITTEE

The INTERPOL Ballistic Information Network Steering Committee was established and continues to work as the founding working committee for IBIN. The committee consists of a range of disciplines including National Central Bureau (NCB) officials as well as lab technicians from the pilot countries that have a close relationship with ballistic data collection and analysis technology. All members of the committee hail from the six pilot counties as well as Forensic Technology and INTERPOL.

The first meeting of the steering committee was held on the 18th of June of 2009 at the General Secretariat in Lyon, France. This first meeting served as the introduction to the long process of founding a lasting international crime-fighting tool. From this committee meeting members discussed communication flows, what necessary protocols were required for the transfer of sensitive data, and what legalities needed to be addressed for the network to comfortably operate on an international playing field. Participants left the meeting with various assignments to complete before the second steering committee meeting, which was held on the 3rd of September on 2009, again at the General Secretariat.

The second meeting launched straight into the development of the program, as Forensic Technology had already sent the IBIN server to INTERPOL and several of the pilot countries had already begun copying and transferring ballistic data to be uploaded into the new server. Members reviewed status updates of IBIN as well as shared their contributions to the final drafts of protocols and legal documents for the establishment of IBIN. Not shortly after the end of the meeting did IBIN go live and the pilot countries were free to test-drive the network before the third steering committee meeting, scheduled for the 21st of January of 2010 at the Forensic Technology Training Facility in Dublin, Ireland.

The hard work, dedication, and perseverance of the committee members shows in the strong foundation of IBIN, and will surely continue to do so as the network continues to grow and develop into a vital part of combating international crime.

PART 3

OPERATING WITHIN IBIN

PART 3: OPERATING WITHIN IBIN
A GUIDE TO USING THE IBIN NETWORK

This section of the user manual is devoted to answering technical and procedural questions regarding how to navigate IBIN effectively. For more information on the IBIS technology, please consult the IBIS User Guide.

PART 3: OPERATING WITHIN IBIN
BEST PRACTICE FOR LAUNCHING IBIN CORRELATIONS

Background

The core element that facilitates international data sharing within IBIN is the IBIS® Correlation Server (CS) hosted by INTERPOL. Each evening, the CS is populated with data duplicated from IBIN-member IBIS® TRAX-3D™ systems in a transparent manner that poses no strain on the host laboratory's daily workflow. This ever-growing international reservoir of ballistic images has created an IBIN "super database" that can be easily searched by IBIN-participating countries and, in a more limited capacity, by non-IBIN-member countries. Results from these international correlations are returned from the IBIN CS to their initiating sites where visual image comparisons can be performed by qualified firearm experts.

Initiating an IBIN Search

To reduce the strain on both the laboratory workflow as well as IBIN, currently correlation searches within IBIN are launched manually. **It is strongly recommended that case specific intelligence be the driving factor for any IBIN international correlation.**

Examples of case specific intelligence that should lead you to launch a correlation in IBIN can include but are not limited to:

- If the defendant arrested with the firearm is a foreign national whose country of origin is an IBIN participating country;
- If you have intelligence that the defendant recently travelled across borders of an IBIN participating country;
- If the vehicle associated with the firearm bears a a foreign-license plate from an IBIN participating country;
- If you have intelligence that the vehicle has travelled across borders of one or more IBIN participating countries;
- If the victim was a foreign national whose country of origin is an IBIN participating country;
- If the firearm was not legally in your country and there is intelligence that it passed through or originated from an IBIN participating country;

- If the ammunition is not normally available in your country and is in an IBIN participating country; etc.

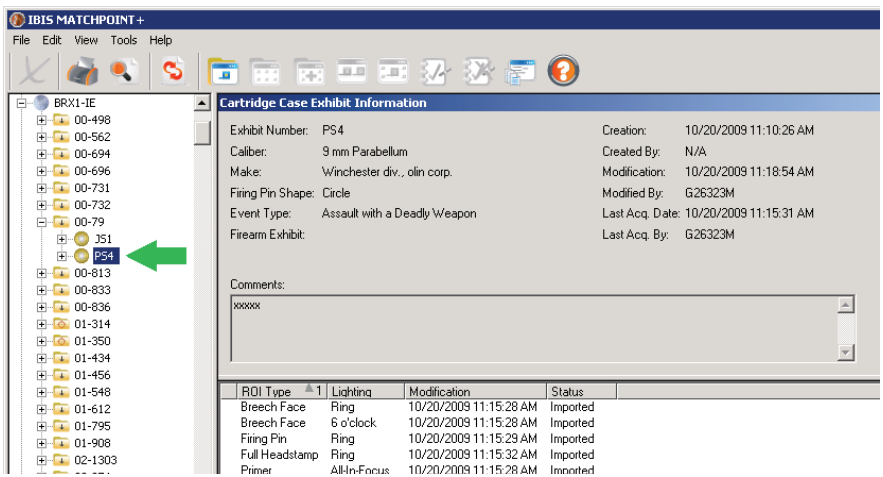
- In short, if there is any intelligence known to the investigator or ballistic expert that would indicate that the firearm, associated vehicle, defendant, victim, or other property associated with the crime travelled across borders in common with another IBIN participating country, a correlation in IBIN should be launched.

Just as the core essence of the IBIN network relies on co-operation between its members on an international level, the same co-operation is equally essential between law enforcement agencies within an IBIN-participating country. It is not uncommon for a country to be comprised of specialized law agencies tasked with specific areas of responsibility, such as border protection, customs, and drug trafficking and human trafficking crime. A common factor shared by these agencies is that firearms are the "tools of the trade" for the criminals they investigate. It is critical to the success of IBIN and the perfection of international firearms investigations that these specialized agencies aware of IBIN's capability to search internationally. It will allow them to apply their established investigative knowledge to initiating intelligence-led queries against IBIN. Furthermore, by initiating searches between two or more IBIN participating countries where there are known links between criminal entities or groups will generate the highest possibility for success.

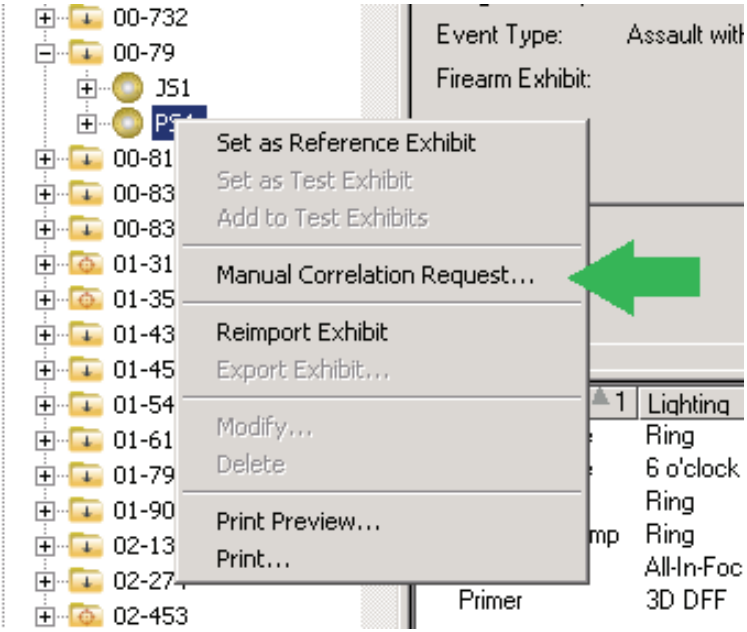
IBIN Members

To initiate a search of IBIN, the user must perform the following steps.

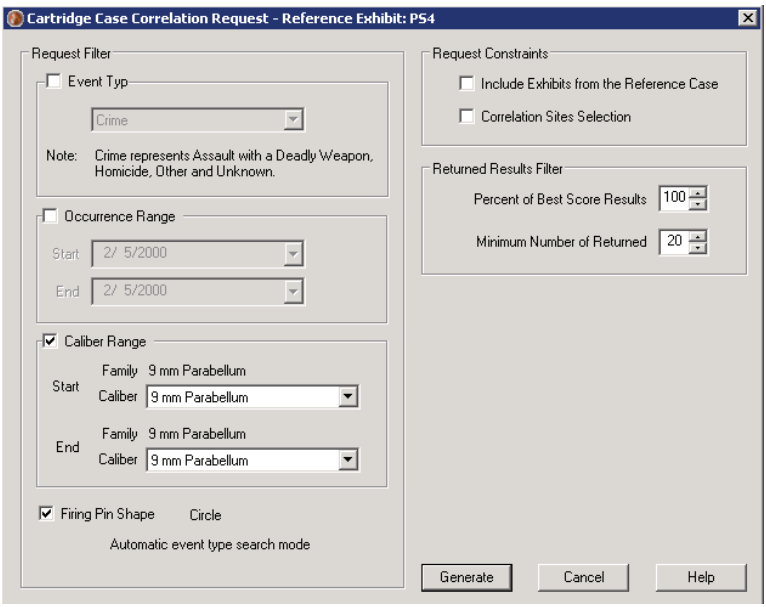
1. In the IBIS® MATCHPOINT+™ Navigation tree, locate the IBIS case and the exhibit that you want to use as the reference exhibit for your correlation request.



2. Right-click the reference exhibit and then select **Manual Correlation Request.**

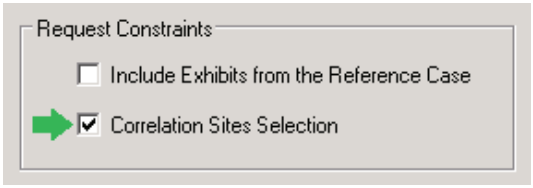


The Correlation Request dialogue box appears and displays the default settings. They are equivalent to those used for an automatic correlation request.



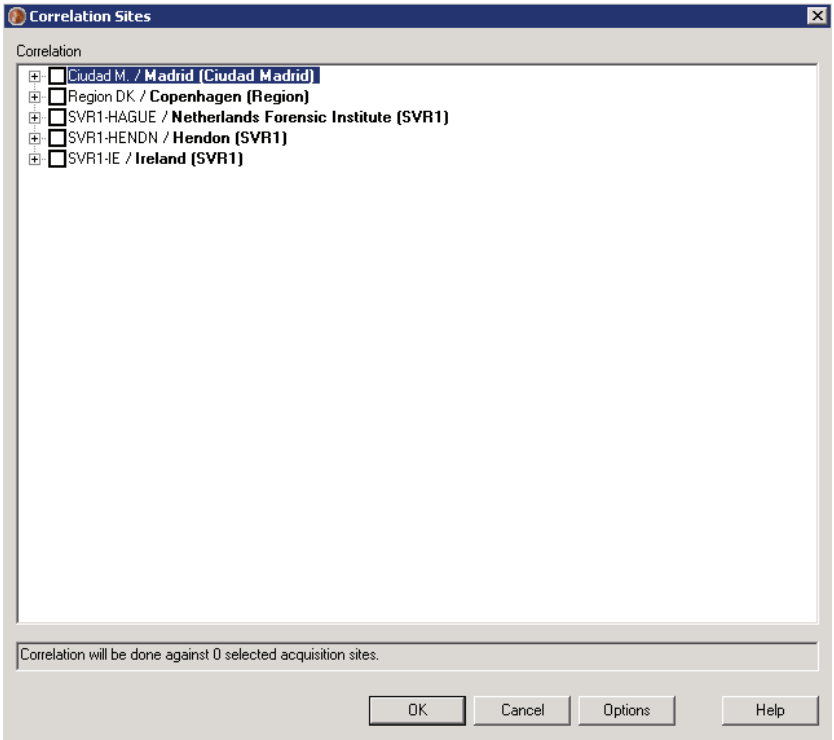
3. If required, modify one or more of the settings for this particular search, such as the ***Occurrence Range*** or ***Caliber Range***.

4. Select the **Correlation Sites Selection** check box in the upper-right corner.

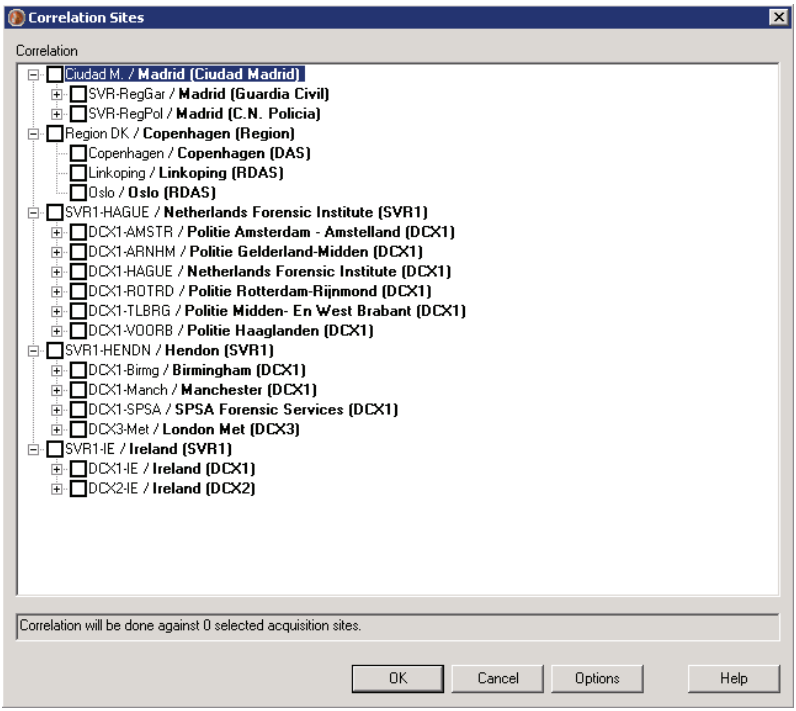


5. Click **Generate**.

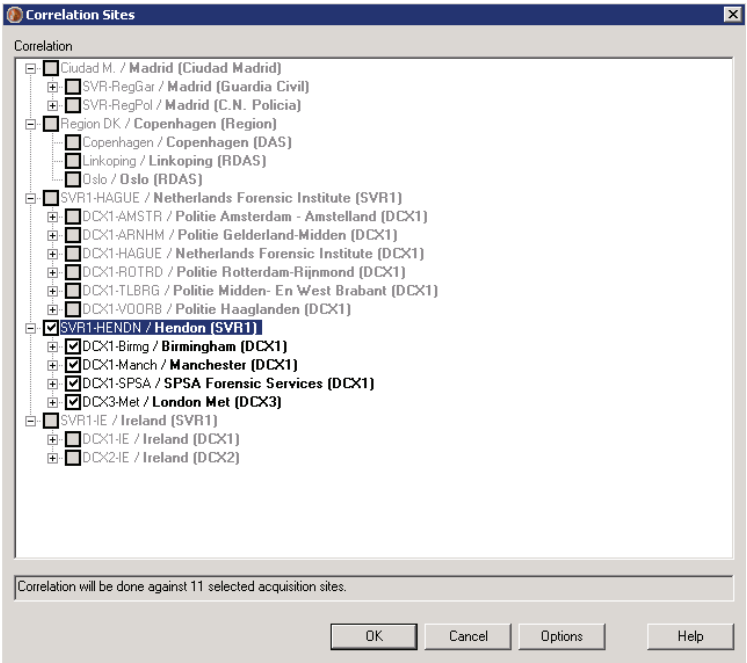
The Correlation Sites dialogue box appears and lists all participating IBIN agencies.



6. If required, click the plus sign (+) next to an agency to see the sites for each agency.


Correlation Sites
Correlation
Ciudad M. / Madrid (Ciudad Madrid)
SVR-RegGar / Madrid (Guardia Civil)
SVR-RegPol / Madrid (C.N. Policia)
Region DK / Copenhagen (Region)
Copenhagen / Copenhagen (DAS)
Linkoping / Linkoping (RDAS)
Oslo / Oslo (RDAS)
SVR1-HAGUE / Netherlands Forensic Institute (SVR1)
DCX1-AMSTR / Politie Amsterdam - Amstelland (DCX1)
DCX1-ARNHM / Politie Gelderland-Midden (DCX1)
DCX1-HAGUE / Netherlands Forensic Institute (DCX1)
DCX1-ROTRD / Politie Rotterdam-Rijnmond (DCX1)
DCX1-TLBRG / Politie Midden- En West Brabant (DCX1)
DCX1-VOORB / Politie Haaglanden (DCX1)
SVR1-HENDN / Hendon (SVR1)
DCX1-Birmg / Birmingham (DCX1)
DCX1-Manch / Manchester (DCX1)
DCX1-SPSA / SPSA Forensic Services (DCX1)
DCX3-Met / London Met (DCX3)
SVR1-IE / Ireland (SVR1)
DCX1-IE / Ireland (DCX1)
DCX2-IE / Ireland (DCX2)
Correlation will be done against 0 selected acquisition sites.
OK
Cancel
Options
Help

Note that only one agency can be selected per correlation request.


Correlation Sites
Correlation
Ciudad M. / Madrid (Ciudad Madrid)
SVR-RegGar / Madrid (Guardia Civil)
SVR-RegPol / Madrid (C.N. Policia)
Region DK / Copenhagen (Region)
Copenhagen / Copenhagen (DAS)
Linkoping / Linkoping (RDAS)
Oslo / Oslo (RDAS)
SVR1-HAGUE / Netherlands Forensic Institute (SVR1)
DCX1-AMSTR / Politie Amsterdam - Amstelland (DCX1)
DCX1-ARNHM / Politie Gelderland-Midden (DCX1)
DCX1-HAGUE / Netherlands Forensic Institute (DCX1)
DCX1-ROTRD / Politie Rotterdam-Rijnmond (DCX1)
DCX1-TLBRG / Politie Midden- En West Brabant (DCX1)
DCX1-VOORB / Politie Haaglanden (DCX1)
SVR1-HENDN / Hendon (SVR1)
DCX1-Birmg / Birmingham (DCX1)
DCX1-Manch / Manchester (DCX1)
DCX1-SPSA / SPSA Forensic Services (DCX1)
DCX3-Met / London Met (DCX3)
SVR1-IE / Ireland (SVR1)
DCX1-IE / Ireland (DCX1)
DCX2-IE / Ireland (DCX2)
Correlation will be done against 11 selected acquisition sites.
OK
Cancel
Options
Help

For example, selecting the Hendon agency's IBIN Correlation Server from the Correlation Sites list causes all other servers to be inaccessible. If you wish to search against the data of multiple agencies or countries, then an individual manual correlation request will need to be launched for each foreign agency that you wish to search against.

7. Click OK to launch the IBIN correlation request.

The new request for the reference exhibit appears in the Correlation Requests view of the Correlations window. Once the correlation is completed, the results can be reviewed at your convenience in the traditional manner.

PART 3: OPERATING WITHIN IBIN
BEST PRACTICE FOR CASES WITH AN UNKNOWN OCCURRENCE DATE

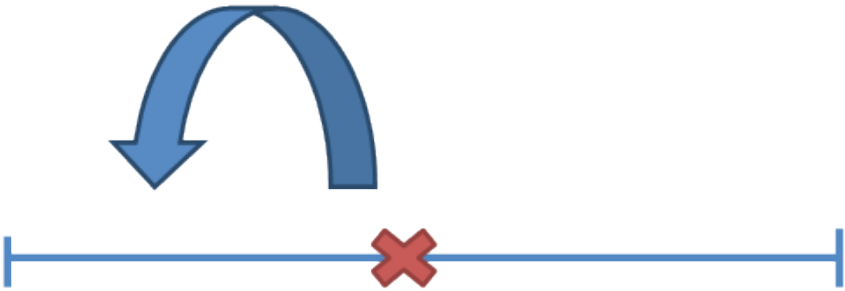
Background:

The occurrence date (OD) used when a case is entered into an IBIS TRAX-3D system plays an important role in how the correlation process searches against bullet and cartridge case exhibits within the IBIN database. This applies to the OD of both the **reference** case/exhibit, which is initiating the correlation request, as well as the **test** cases/exhibits, which are being searched against.

The date that the OD represents will vary depending on the event type of the case.

1. **Where the firearm is still at large**—for example, for many crime-type events—**the OD should represent the date that the crime took place**. When a crime-type exhibit is the reference for a correlation, because the firearm is still in circulation, the search within the database will cover ODs that are **both BEFORE and AFTER** the reference exhibit's own date.

2. **Where the firearm has been seized** and is in the custody of a laboratory—for example, for Test Fire events—**the OD should represent the date that the weapon was removed from circulation.** The correlation process for a Test Fire reference exhibit, however, only searches against crimes that occurred **BEFORE** its own OD because the firearm was no longer in circulation after the date it was obtained.



Oldest records OD Today

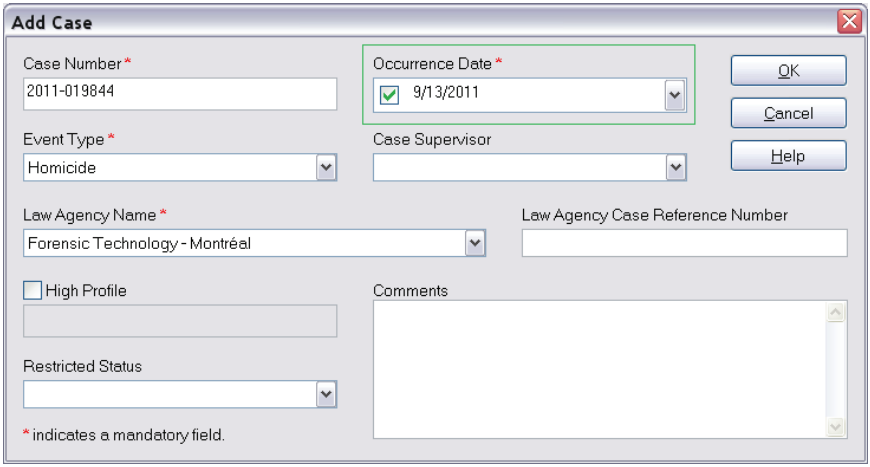
3. Where bullets and cartridge cases have been recovered and the date of the crime is unknown, it is imperative that these cases are handled in a consistent manner.

Best practice:

For any case where the OD of a crime is unknown, it is important to first try to determine the appropriate OD logically with the resources you have available, be they investigative (with detectives) or scientific (through laboratory research). If no conclusive OD can be determined, it is recommended that **01/01/1970** be used as the default date. Doing so ensures that the correlation process will search the oldest available records and minimizes the possibility of missing potential matches. Using this date as a standard for an otherwise unknown OD will provide uniformity between all IBIN participating countries.

Use the following process to set the OD to the default date when the actual OD cannot be determined.

1. In the **IBIS**® BRASSTRAX-3D™ or **IBIS**® BULLETTRAX-3D™ Add Case dialogue box, enter the appropriate information and select the check box in the **Occurrence Date** field.



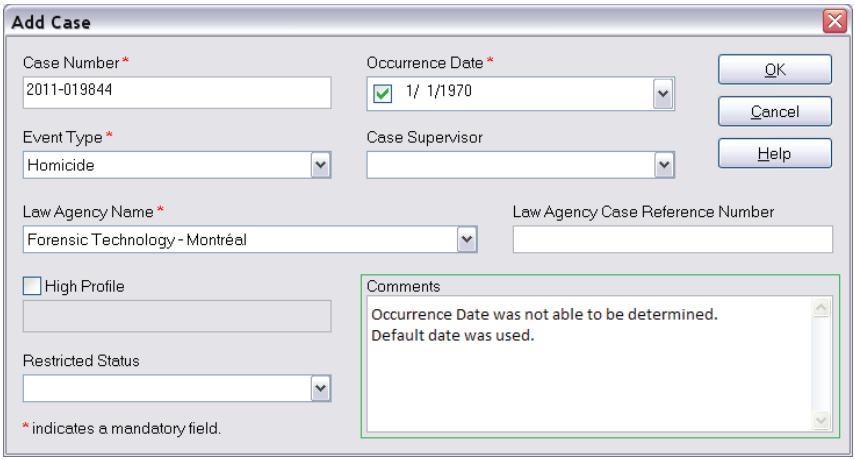
The current date will appear in the **Occurrence Date** field by default when the check box is selected.

2) Make sure that the Num Lock feature on your keyboard is on, click to left of the first number in the Occurrence Date field, and then press your keyboard number and arrow keys to enter the following sequence:

1 ⇨ 1 ⇨ 1970

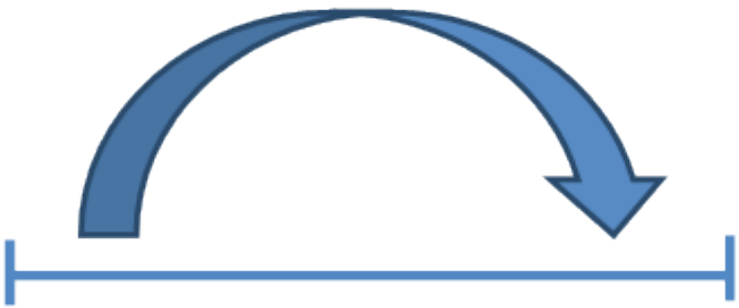
(January 1st, 1970)

3) In the **Comments** field, indicate that the OD was unknown.



The data sanitization process will mask these comments as they are uploaded to the IBIN Correlation Server, however they will still be of use within your own agency.

The search within the database will start from the **very first day** that the IBIS system started **working up to and including today.**



January 1st, 1970 Today

PART 3: OPERATING WITHIN IBIN
BEST PRACTICE FOR CREATING DOUBLE-CASTS (DRAFT)

Introduction

The following best practice is a draft that represents an amalgamation of several of the most common double-casting procedures in use today and has been tested for use with the IBIS technology.

Castings of evidence (fired bullets and cartridges cases) from one crime can be sent to other jurisdictions or countries in lieu of original evidence for comparison and linkage to other crimes where similar evidence exists, thereby preserving the chain of custody of the original evidence and enabling forensic laboratories to provide valuable investigative leads to police. The best practice provided in this document has been developed to enhance the consistency and quality of ballistic casts for use in IBIN.

Casting will play an important role in IBIN. Double-casting, also known as ballistic cloning, is a process whereby microscopic quality replicas are made from ballistic evidence. IBIN member countries can send casts of ballistic evidence to other participating countries for comparison, peer review, and quality control testing. Non-IBIN member countries that do not have an automated ballistic identification system, or that have a technology other than IBIS, can participate in IBIN using the double-casting method.

Background

Double-casting can be used to reproduce fired bullets, and cartridge cases that have a microscopic identifiable level and quality.

Real Specimens

Replica Specimens

Historically, firearm examiners experimented with various casting materials, methods, and techniques with varying degrees of success. The development of room-temperature vulcanizing (RTV) silicones has provided the optimum solution for the replication of fired bullets and cartridge cases and the microscopic markings left on them during the firing processes. The Netherlands Forensic Science Laboratory (currently the Netherlands Forensic Institute) and Bundeskriminalamt (BKA—Germany) pioneered double-casting in its current form.* The European Network of Forensic Science Institutes (ENFSI) uses a similar process to create consistent proficiency tests for its members.

*AFTE Journal, Volume 39 Number 4, Fall 2007, "Castings of Complex Stereometric Samples for Proficiency Tests in Firearm and Tool Mark Examinations" by Alfons Koch and Horst Katterwe, Bundeskriminalamt.

Double-Casting Process

The casting process is a two-step process that first requires making a silicone mould of the fired bullet or cartridge case and then making a resin cast using the created mould.

Prior to starting the double-casting process, follow your standard laboratory procedures concerning:

- DNA, latent fingerprints, trace evidence examinations for ballistic evidence and test-fired ammunition components.
- Marking of ballistic evidence and test-fired ammunition components.
- Cleaning of the ballistic evidence to prepare it for the double-casting process.
- Photographing of the ballistic evidence.

All measures should be taken to preserve the evidentiary value of fired bullets and cartridge cases prior to starting the double-casting process.

Casting Techniques

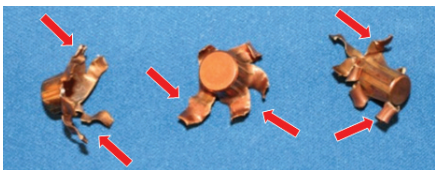
Fired Bullet and Cartridge Case Preparation

Tools needed:	Needle nose or smooth jaw pliers (to bend back sharp petals on damaged bullets)
	Scissors (mounting)
	Glue gun and glue (mould box)
Materials needed:	Cotton swabs (cleaning)
	Small corks, wooden dowels, sticky wax, modelling clay (mounting)
	Wooden base, plastic base or drinking cup base (mounting)
	Plastic box, drinking cup, or PVC box of a suitable size (mould box)
Products needed:	Acetone, methanol, rubbing alcohol, or cleaning agents specified by your laboratory procedures (cleaning)
	Super Glue or equivalent (cyanoacrylate) and Super Glue accelerator (zip-kicker spray) (mounting)

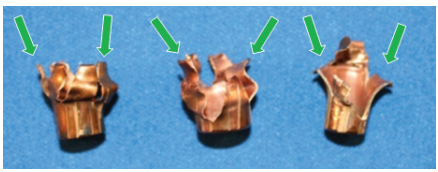
Cleaning

In accordance with your laboratory procedures, thoroughly remove trace material including dirt, foreign objects/materials, body fluids, and contaminants using cotton swabs dipped in acetone, methanol, rubbing alcohol, or the cleaning agents specified by your laboratory.

Sharp petals on damaged/expanded bullets should be bent away from the bullet's base using the needle nose pliers or smooth jaw pliers (or removed since they can permanently damage the mould). The part of the petal that is normally in need of being bent forward is towards the nose of the bullet and usually does not bear any critical identification marks. Be careful that you do not add extra marks as you bend back the petals. (If smooth jaw pliers are not available, covering the tips of needle nose pliers with plastic heat-shrink tubing will help prevent introducing new marks to the exhibit.)



Before

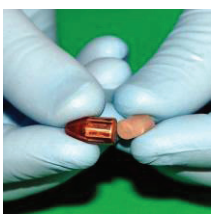


After

Bullet Mounting

For pristine bullets:

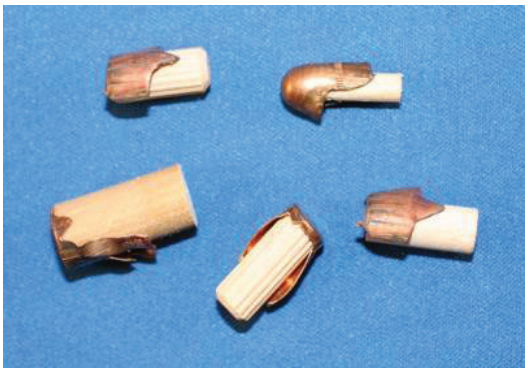
- Select a wooden dowel that is approximately 10 mm in length and has a diameter that is slightly smaller than the bullet diameter.
- Using Super Glue (or equivalent) and the accelerator, mount the bullet the wooden dowel using sticky wax or modelling clay.



- Mount the dowel with the bullet so that it is perpendicular to the plastic base.

For damaged/deformed bullets:

- Select a suitable-sized wooden dowel and fill all cavities and other large openings with modelling clay, if necessary.
- Mount the fragment with the microscopic marking face up to the plastic base.



Cartridge Case Mounting

- Push a small cork stopper about halfway into the cartridge case mouth.

- Using Super Glue (or equivalent), mount the bottom of the cork stopper so that it is perpendicular to the plastic base.
- Multiple fired bullets and cartridge cases can be mounted onto the same mould box.

Mould Box

Cut out the bottom of a clear plastic drinking cup. Place the cup over the mounted evidence, in our example, a bullet and a cartridge case.

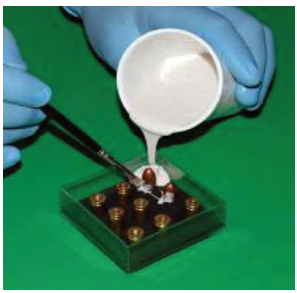
Secure the cup to the plastic base by applying glue along the cup's circumference using the glue gun to prevent the RTV silicone from leaking. Alternatively, you can use a plastic box with an open top.

Creating the Mould

Time:	15-24 hours (curing)
Tools needed:	Spatula (mixing)
	Container, plastic cup suggested (to prepare the mixture)
	Paintbrush (to help pour the mixture) Mould key knife (demoulding and mould scribing)
	Knife (demoulding mould from its PVC box)
	A can of compressed air
Materials needed:	Pressure pot (mould curing)
	Air compressor, with nozzle (mould curing)
Products needed:	Silicone, Elastosil M4641 A and Elastosil M4641 B – www.wacker.com
	Rubbing alcohol (demoulding the mould from its PVC box)

Shake the silicone containers well or stir their contents; the components separate when sitting for some time. For one cup, by weight, the ratio of Elastosil M4641 A to Elastosil M4641 B must be 10:1. Mix the Elastosil M4641 A and Elastosil M4641 B thoroughly with a spatula.

Pour the mixture into the previously prepared mould box until it is about 3-4 mm above the highest bullet nose or cartridge case. To prevent air bubbles, pour slowly and use a paintbrush to help place the mixture into the bottom of the mould. Move the mould from side to side intermittently; the vibrations will help remove the bubbles.



Place the mould box into the pressure pot.

Close the pressure pot and connect it to the air compressor. Turn on the air compressor and apply 30 psi of air pressure to the pressure pot.

Cure the mould for 15-24 hours under pressure at room temperature. Check the exact time specified by the silicone manufacturer; it can take up to 24 hours. Curing the mould box containing the mixed silicone under pressure ensures high-quality bubble-free moulds. The air pressure will force out the air bubbles generated during the mixing and pouring of the silicone.

Demoulding Process

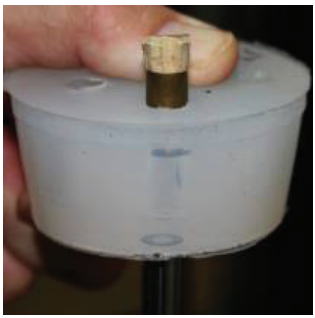
1. **Demould the Mould from Its Mould Box**

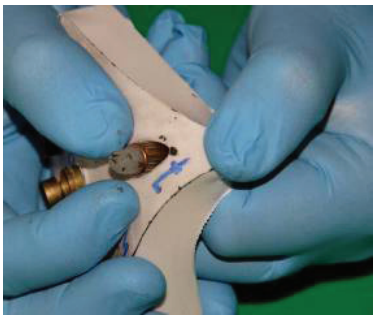
After the curing process is finished, turn off the air compressor, disconnect the air pressure hose from the pressure pot, and remove the cured RTV silicone mould from the pressure pot. Remove the plastic cup and the plastic base from the mould. To aid its release, you can move the head of a knife around the outside of the mould, and adding rubbing alcohol will make the silicone slippery. (Alternatively, applying a silicone release agent inside the mould box before pouring the silicone rubber will aid its release.)

2. **Remove the Real Specimens from Their Silicone Mould**

Remove the original specimens carefully from the mould. Remove the dowel (attached to the bullet) or the cork stopper (pushed into the cartridge case mouth), push the bottom of the mould onto a flat-tipped rod of approximately the same diameter as the bullet or the head of the cartridge case, and flex the silicone mould.

The base of the mould must be marked with the corresponding evidence reference numbers for identification as each exhibit is removed. Acceptable methods of marking include scribing directly into the mould, placing a label into the mould if you use transparent mould-making material, or placing a label on the outside of the mould.





Take care not to damage the mould and the bullet/cartridge case.

A mould key knife can be utilised to remove the fired bullet/cartridge case.

After the bullet and the cartridge case are removed from the mould, clean the mould by blowing compressed air into it to remove any loose silicone particles.

The mould is now ready for resin casting.

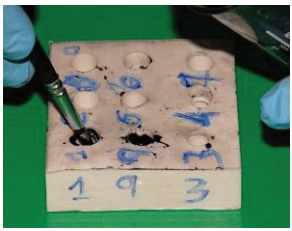
Casting Resin

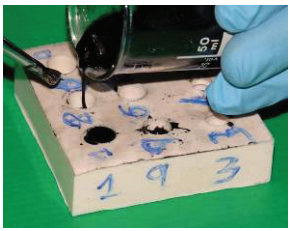
Time:	2 hours (curing)
Tool needed:	Paintbrush (to help pour the mixture)
	Needle nose pliers (demoulding resin casts from silicone mould)
	Screw (demoulding resin casts from silicone mould)
	Drill (demoulding resin casts from silicone mould)
Materials needed:	2 mixing cups
	A stir stick
	A can of compressed air
	Light soap solution
Optional:	Drill
	Drill bit
	Screw(s)
	Needle nose pliers
	Small razor saw
	Small lathe
Products needed:	Urethane Resin, Smooth-Cast 321 A and Smooth-Cast 321 B
	– www.smooth-on.com
	Smooth-On SO-Strong Black Color Tint
	– www.smooth-on.com

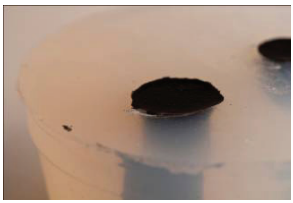
Filling the Silicone Mould with Casting Resin

Ensure that the moulds are clean and free of dust or other materials. Clean the mould using compressed air. Have two disposable mixing cups ready. Pour a quantity of Smooth-Cast 321 A into one cup and an equal quantity of Smooth-Cast 321 B into the second cup. Add 30 drops of Smooth-On SO-Strong Black Color Tint (for about a 100 ml volume) into the cup with the Smooth-Cast 321 B resin. Mix the A and B parts thoroughly for about 40 seconds using the stir stick. This mixture will begin curing in about 7 minutes, so it is important to act promptly.

Pour the mixture slowly into the mould until it is level with the mould opening. To help prevent air bubbles, you can use a paintbrush to apply the resin in the base of the mould. It is important to do this in the zone of the groove (knurling or rim).





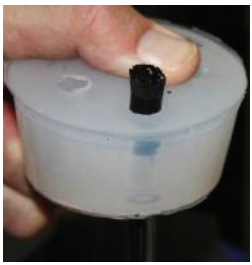


Place the resin-filled mould into the pressure pot and close the lid. Connect the air compressor to the pressure pot. Turn on the air compressor and apply 30 psi of air pressure to the pressure pot. Allow for the resin to cure for about 2 hours in the pressurised pressure pot. Check the exact time required by the resin manufacturer.

Demoulding Cured Resin Casts

After the curing process if finished, turn off the air compressor, disconnect the air pressure hose from the pressure pot, and remove the cured RTV silicone mould containing the cured resin castings from the pressure pot.

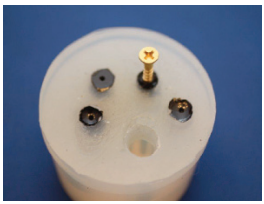
Remove the cured resin casts from the mould by pushing the bottom of the mould onto a flat tipped rod and simultaneously pulling the cured casting upward with your fingers and/or flexing the silicone mould.



Other methods of demoulding include:

Using needle nose pliers to grip the base portion (formed by the wooden dowel/ cork stopper) and pry the cast free. (The longer work areas eliminate the risk of damaging the cured resin castings)

Drilling a small hole in the exposed part of the resin casting (in its mould) and inserting a small screw into the casting. The casting is then removed from the mould by gently pulling the screw out (with the cured resin casting attached) using pliers.



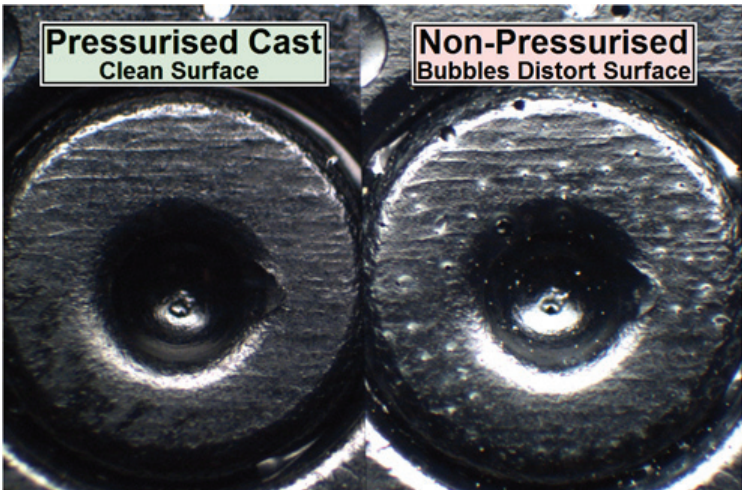
Take care not to damage the mould and the bullet/cartridge case. The base portions of the cured resin bullet and cartridge case castings can be removed with a small razor saw or can be cut off on a small lathe taking care not to damage the cured resin bullet and cartridge case castings.

Clean the trimmed resin bullets and cartridge cases with compressed air or with water and a light soap solution.

The resin bullet and cartridge case castings are now ready for ballistic imaging or comparison microscope examination and comparison.

Notes and Recommendations

- One mould can cast up to 20 replicas.
- For moulds and casts, a pressurised curing process and black-dye resin are recommended for all ballistic evidence and test-fired ammunition components to be included in IBIN.
- Pressurised curing will remove any air bubbles from the silicone and resin.



- Brown-dye resin or a gold or copper coating (that would not require any dye at all) are available but are not the best and are not recommended for IBIN. The choice of resin colour depends on the application used. Dark brown is suitable for comparison microscope examination, but not for IBIS BRASSTRAX-3D imaging.

  Black is suitable for all applications (comparison microscope examination, and BULLETTRAX-3D and BRASSTRAX-3D imaging).
- To optimise the use of moulds and resin copies over time, and to prevent or impede shrinkage, storage should be maintained in an environment with a controlled, moderate temperature and humidity.
- It is recommended that laboratories acquire only small quantities of mould making material and casting resin, as these materials have a limited shelf life.
- For the mould and casting materials, always check the manufacturer's instructions regarding the correct amounts to be used and the appropriate manner and curing times.

Materials Known to Deliver Good Results

Mould:

- Silastic 3483 and A. Curado– www.feroca.com
- T28 Silicone Rubber and T6 Catalyst – www.tiranti.co.uk

Resins:

- Epofer EX 401 and Epofer E 432 Catalyst – www.feroca.com
- Epoxy Gloss Coat A and Epoxy Gloss Coat B – www.vosschemie.de

  (Note: Epoxy resin curing times are significantly longer than for urethane resins.

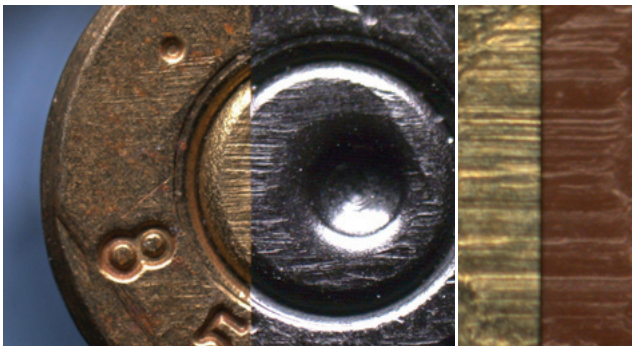
Resin dye:

- PE 9005 (black) – www.feroca.com (for Epofer EX 401 and Epofer E 432 Catalyst)
- Polyurethane Pigment Black – www.tiranti.co.uk (for Epoxy Gloss Coat A and Epoxy Gloss Coat B)

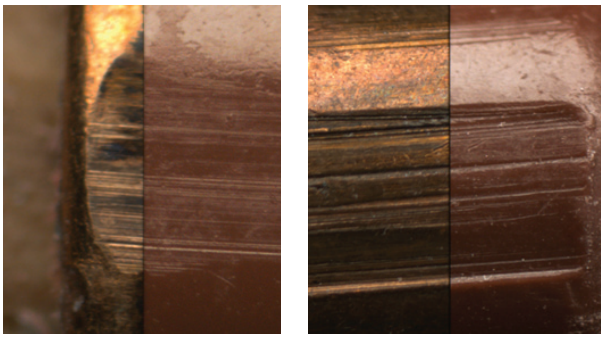
Comparison Microscope Images

Best results when viewing the casts on the microscope are obtained by indirect light or by light diffusers.

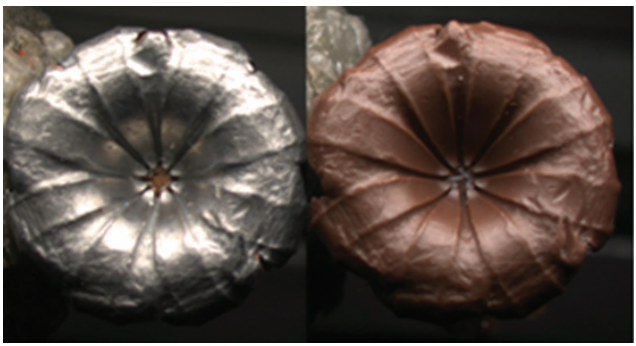
Real fired cartridge case to cast



Real fired cartridge case to cast



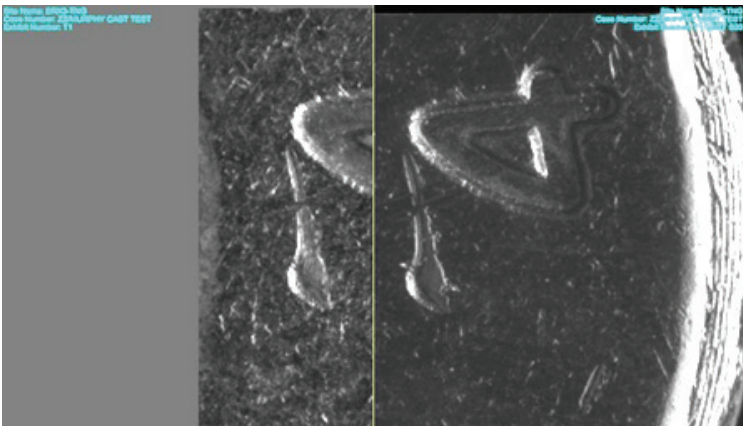
Real fired bullet to cast detail comparison:



Comparison IBIS BRASSTRAX-3D Images

Real to cast

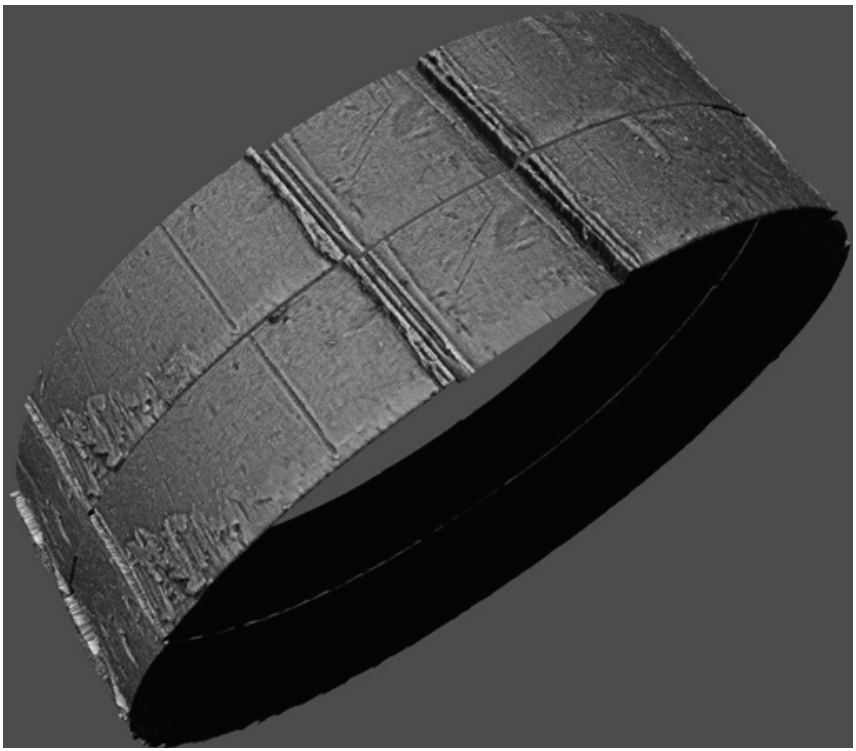
Real to cast



Real to cast

IBIS® Comparison Microscope 3D (ICM-3D) Images

Real to cast



Conclusion

Certificate Of Authenticity Of Casting Process And Procedures

An INTERPOL Certificate of Authenticity compiled by the person conducting the double-casting process must accompany all castings. The Certificate of Authenticity signifies that the casts were made from original evidence and that the casting process described herein has been followed.

Validation Process

On January 4 and January 5, 2011, a validation group consisting of experts convened at the Spanish National Police Central Forensic Science Laboratory to evaluate known processes for double-casting of ballistic evidence. This document was compiled by the validation group to provide best practices and guidelines for double-casting techniques for use in the INTERPOL Ballistic Information Network (IBIN).

Validation Participants

Jose F Dominguez Sanchez (Inspector, Jefe de Grupo Operativo, Centro policial, Comisaria General De Policia Cientifica, Laboratorio Central Balistica Forense in Madrid, Spain) has 23 years of forensic ballistic experience and is the author of "Resin Casting of Ballistics Evidence".

Gregg Taylor (Firearms and Ballistics Expert, National Ballistics Intelligence Service (NABIS) in the United Kingdom) has 10 years experience in the field of forensic evidence recovery and examination for West Midlands Police, including specialised work as an expert in firearms and ballistics for NABIS.

Paul J Murphy (Senior Firearms Technical Advisor/Forensic Firearm Examiner at Forensic Technology WAI; former Senior Forensic Scientist, Virginia Division of Forensic Sciences Eastern Laboratory in Norfolk, Virginia, USA; former Commanding Officer/Senior Superintendent South African Police Service, Eastern Cape Forensic Science Laboratory in Port Elizabeth South Africa) has 27 years of forensic ballistic experience. He is a Distinguished Member at the Association of Firearm and Tool Mark Examiners (AFTE) and is the author of "Forensic Ballistic Component Cloning (Evidence & Test-fired Ammunition Components)".

Note: Although this process is in use at the time of printing, it is still being peer-reviewed. The next version of this guide will revise the best practice according the results of the peer-review.

INTERPOL BALLISTIC INFORMATION NETWORK

Certificate of Authenticity of Casting Process & Procedures

We request the following evidence to be inserted into IBIN and correlated against

……

……

……

……

The cast(s) were made from original evidence and we certify that the process outlined by INTERPOL has been followed.

Date, place, NCB name

……

INTERPOL
Firearms Programmes
200 Quai Charles de Gaules
69006 Lyon

Phone: +33 4 72 44 73 92
Fax : +33 4 72 44 73 51
E-mail: t.hite@interpol.int

PART 3: OPERATING WITHIN IBIN

IBIN COMMUNICATION FLOW

Every INTERPOL member country is unique and therefore the proper channels of communication within a nation's borders can defer greatly from one government to the next. Establishing a standard communication flow can prove difficult to follow. For that reason the following communication outline should be taken as the standard for every IBIN user but still leave room for exception when necessary..

Of primary importance, is the communication between the investigating officer and the ballistics expert. The investigating officer must be informed that international correlation against the IBIN participating countries is possible. The ballistic expert must have sufficient case specific intelligence to recommend the use of IBIN.

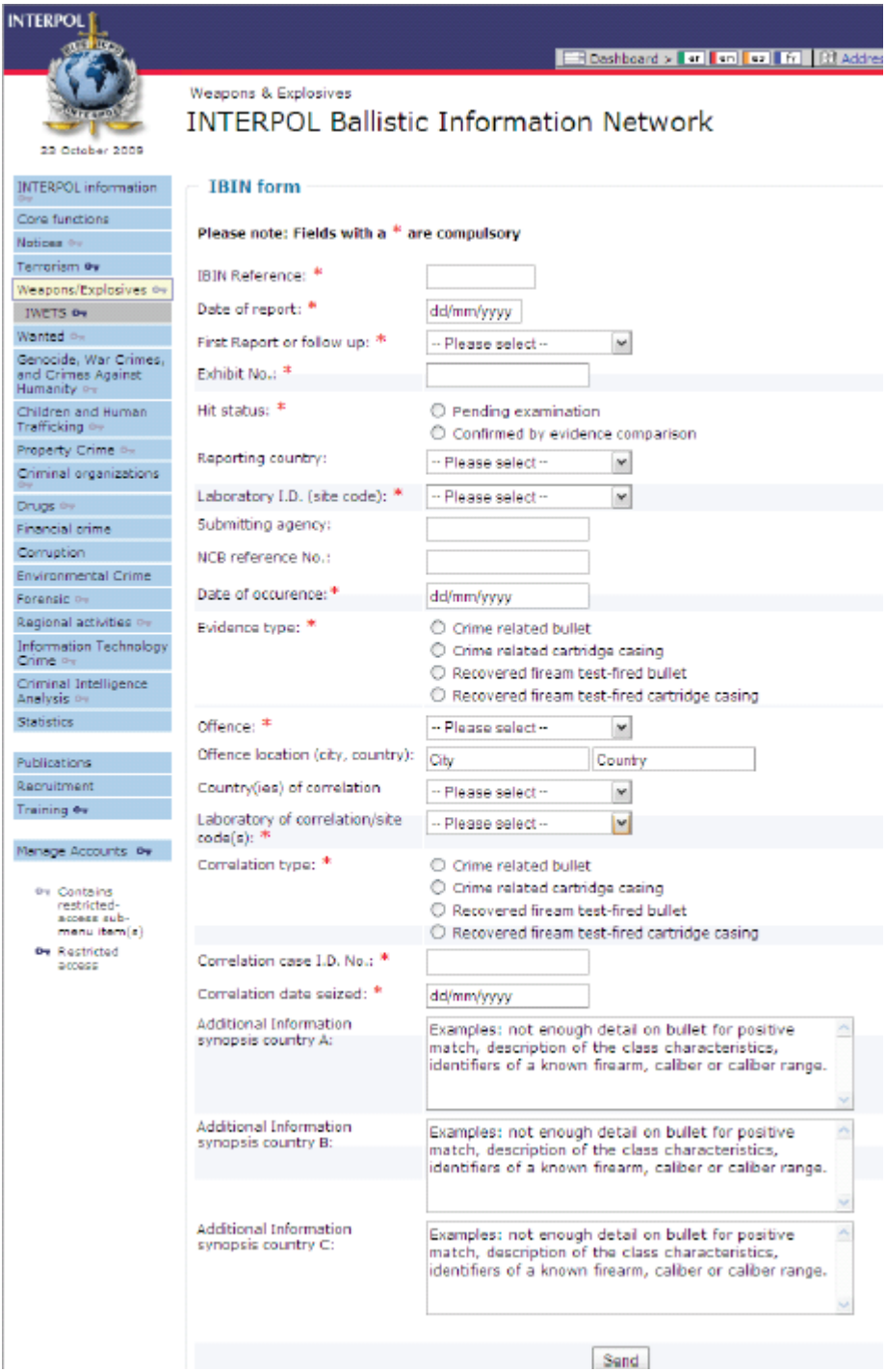
When an IBIN user uploads ballistic data into their national IBIS system, a copy of that data is automatically sent to the IBIN server at the General Secretariat unless the reporting officer indicates otherwise. Copied data is not automatically correlated to the system. A ballistic expert must manually request a search in IBIN and indicate which countries and/or regions to correlate the data against. Only under rare circumstances does a ballistic expert correlate agains the entire database, as doing so creates additional workload for the ballistic expert.

If the results of an IBIN correlation come back without any potential hits, no international action is taken unless the investigating officer has intelligence to prompt another correlation. If the results come back with an "unconfirmed hit," then international co-operation is needed.

Once an "unconfirmed hit" results from a correlation, the communication flow should start. In general, INTERPOL, the National Central Bureaus (NCBs) involved, and the laboratories should all be kept informed of any international coordination regarding the exchange of ballistic data. The **IBIN Form** is used for communicating requests for exchange of investigative information, double-casts, test-fires, hit notifications, and any other pertinent communication between the laboratories, NCBs and the General Secretariat. The report form is located on I-24/7.It is therefore requested that NCB National Security Officers issue I-24/7 user accounts to the IBIN participating countries' laboratory personnel.

PART 3: OPERATING WITHIN IBIN
REPORTING TO IBIN

The following diagram is a snapshot of the INTERPOL Ballistic Information Network **Report Form** accessible through I-24/7 for all participating members of IBIN. This form is a general report form serving multiple purposes for the IBIN user; therefore, not all fields may be relevant for every need. There are some basic fields that are mandatory to complete before the form can be submitted. The system will not process a report that is incomplete. These obligatory fields are designated with a red asterisk, exemplified in the following diagram. For all forms, a copy of a submitted report is automatically sent to the requesting country's NCB. It is the responsibility of the receiving country to inform their NCB about all IBIN activities, however. This form is important to the Network as it provides tracking of communication between the laboratories, NCBs, and the General Secretariat.


INTERPOL
Dashboard
Weapons & Explosives
INTERPOL Ballistic Information Network
23 October 2009
INTERPOL information
Core functions
Notices
Terrorism
Weapons/Explosives
IWETS
Wanted
Genocide, War Crimes, and Crimes Against Humanity
Children and Human Trafficking
Property Crime
Criminal organizations
Drugs
Financial crime
Corruption
Environmental Crime
Forensic
Regional activities
Information Technology Crime
Criminal Intelligence Analysis
Statistics
Publications
Recruitment
Training
Manage Accounts
Contains restricted-access sub-menu item(s)
Restricted access
IBIN form
Please note: Fields with a * are compulsory
IBIN Reference: *
Date of report: *
dd/mm/yyyy
First Raport or follow up: *
-- Please select --
Exhibit No.: *
Hit status: *
Pending examination
Confirmed by evidence comparison
Reporting country:
-- Please select --
Laboratory I.D. (site code): *
-- Please select --
Submitting agency:
NCB reference No.:
Date of occurence: *
dd/mm/yyyy
Evidence type: *
Crime related bullet
Crime related cartridge casing
Recovered fiream test-fired bullet
Recovered fiream test-fired cartridge casing
Offence: *
-- Please select --
Offence location (city, country):
City
Country
Country(ies) of correlation
-- Please select --
Laboratory of correlation/site code(s): *
-- Please select --
Correlation type: *
Crime related bullet
Crime related cartridge casing
Recovered fiream test-fired bullet
Recovered fiream test-fired cartridge casing
Correlation case I.D. No.: *
Correlation date seized: *
dd/mm/yyyy
Additional Information synopsis country A:
Examples: not enough detail on bullet for positive match, description of the class characteristics, identifiers of a known firearm, caliber or caliber range.
Additional Information synopsis country B:
Examples: not enough detail on bullet for positive match, description of the class characteristics, identifiers of a known firearm, caliber or caliber range.
Additional Information synopsis country C:
Examples: not enough detail on bullet for positive match, description of the class characteristics, identifiers of a known firearm, caliber or caliber range.
Send

PART 4

ADDITIONAL RESOURCES

PART 4: ADDITIONAL RESOURCES
LINKS

The following table illustrates a list of helpful resources related to the INTERPOL Firearms Program. These sources, along with the website addresses, are for additional research on the matter of small arms and light weapons.

INTERNATIONAL

UN: OFFICE FOR DISARMAMENT AFFAIRS (UNODA)

http://www.un.org/disarmament

The UN Office for Disarmament Affairs deals mainly with nuclear and large scale weapon disarmament in addition to the disposal of small arms and landmines most commonly used in many of the armed conflict areas these days. A major development from the UNODA in relation to the INTERPOL Firearms Program is the International Tracing Instrument (ITI) <http://disarmament.un.org/CAB/Markingandtracing/markingandtracingindex.html>. The ITI has opened the doors to new dialogue, international organizations, and international operations to combat SALW. In addition, the ITI calls for an international tracing mechanism, which INTERPOL leads the way with the IBIN program.

UN: INSTITUTE FOR DISARMAMENT RESEARCH (UNIDIR)

http://www.unidir.org/html/en/home.html

As an autonomous research body under the leadership of the United Nations and based out of Geneva, this research institute concerns itself with the compilation and analysis of all issues related to weapons, both on large and small scales. The following link: <http://www.unidir.ch/bdd/focus-search.php?onglet=5> is a list of publications and resources delving into national and international issues concerning small arms and light weapons (SALW).

UN: OFFICE ON DRUGS AND CRIMES (UNODC)

http://www.unodc.org/unodc/en/treaties/CTOC/index.html#Fulltext

The UN Office on Drugs and Crimes focuses mainly on drugs and human trafficking, however in relation to firearms, the United Nations Convention against Transnational Organized Crime developed a protocol "against the Illicit Manufacturing and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime."

UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)

http://www.undp.org/cpr/index.shtml

The United Nations Development Programme has a division on Crisis Prevention and Recovery, which devotes time and energy to disarmament demobilization and reintegration, as well as small arms and mine action.

WASSENAAR ARRANGEMENT

http://www.wassenaar.org

This agreement is established between 40 member countries from around the globe, all agreeing to work towards ensuring the transparent transfer of weapons so as to not add to militaristic power of any one state.

EUROPEAN CHIEFS OF POLICE TASK FORCE (EPCTF)

http://www.eurunion.org/partner/euusterror/policechiefstaskforce.htm

As a branch of Europol, the EPCTF provides European law enforcement another platform to meet and exchange best practices and ideas in combatting criminal activity.

UN: COORDINATING ACTION ON SMALL ARMS MECHANISM (CASA)

http://www.un-casa.org

CASA provides a platform for several UN offices to coordinate action on combating illegal use and trafficking on small arms and light weapons (SALW).

REGIONAL

NATO

http://www.nato.int/cps/en/natolive/index.htm

The North Atlantic Treaty Organization (NATO) comprises of 28 countries from Europe and North America. Much of the organization's agenda focuses on weapons of mass destruction and any threats to the security of member states. In regards to the firearms division of INTERPOL, NATO makes the diffusion of small arms and mines a point of interest as such weapons are easy to acquire and use.

EURO-ATLANTIC PARTNERSHIP COUNCIL

http://www.nato.int/cps/en/natolive/topics_49276.htm

Under NATO sponsorship, EAPC consists of both member countries of NATO and partner countries of NATO. The main aim of this council is to provide consultation on political and security-related affairs. In respect to the firearms department of INTERPOL, EAPC is concerned with arms control.

EUROPEAN UNION

http://www.europa.eu

The European Union is the regional governing body for the European continent, encompassing 27 member countries. In the words of the website, the EU is a"... unique economic and political partnership between 27 democratic European countries." The EU therefore has much say in policy making for Europe.

ORGANIZATION FOR SECURITY AND CO-OPERATION IN EUROPE (OSCE)

http://www.osce.org

The OSCE is the world's largest regional security organization, centered on Europe but including countries from other continents. One of the main topics of interest for this organization is arms control and the reduction as well as destruction of stockpiles left over from the Cold War. There are several other organizations in conglomeration with the OSCE, including but not limited to: NATO, EAPC, UN Office for Disarmament Affairs, UNIDIR, UNODC, UNDP, BCOR, EU, Wassenaar Agreement, GRIP, BICC, Saferworld, Small Arms Survey, and PRIO

SOUTHERN AFRICA REGIONAL POLICE CHIEF COOPERATION ORGANISATION (SARPCCO)

http://www.interpol.int/Public/Region/Africa/Committees/SARPCCO.asp

SARPCCO is an international independent police organization in Southern Africa in collaboration with ICPO-Interpol Sub Regional Bureau. SARPCCO serves as a liaison organization among South African countries in combatting cross-border criminal activities in that region, as well as ensuring there is not overlap in work with INTERPOL.

EAST AFRICAN POLICE CHIEFS COOPERATION ORGANISATION (EAPCCO)

http://www.interpol.int/public/region/africa/srbeasternafrica.asp

EAPCCO is a sub-regional committee based in East Africa and therefore coordinates the involved countries in efforts to combat criminal activity relevant to the region in coordination with INTERPOL.

CENTRAL AFRICAN POLICE CHIEFS COMMITTEE (CAPCC)

http://www.interpol.int/Public/Region/Africa/Committees/CCPAC.asp#3

The CAPCC is a sub-regional committee established for the benefit of Central African countries in terms of combating cross-border criminal activities related to the region. One of the main focuses of CAPCC is to coordinate efforts against firearms trafficking.

SOUTHEAST EUROPEAN COOPERATIVE INITIATIVE

http://www.secicenter.org/m105/Home

SECI is a regional center based in Bucharest geared to coordinate police efforts against trans-border criminal activity harming countries within Southeast Europe.

REGIONAL CENTRE ON SMALL ARMS (RECSA)

http://www.recsasec.org

RECSA is a regional centre based out of Kenya and stems from the Nairobi Initiative. The focus of the organization is on coordinating efforts to eliminate trafficking and illegal stockpiling of small arms and light weapons East Africa, primarily the Great Lakes Region and the Horn of Africa.

ORGANIZATION OF AMERICAN STATES (OAS)

http://www.oas.org/en

OAS is a regional body focusing on North and South America, focusing on a broad range of subjects all concerned with promoting peaceful coexistence among the concerned states as well as improving upon the lives of each member states' citizens.

AFRICAN UNION

http://www.africa-union.org

The African Union is the largest regional body for the African States to diplomatically interact and coordinate action on topics relative to the African continent.

THE COOPERATION COUNCIL FOR THE ARAB STATES OF THE GULF (GCC)

http://www.gcc-sg.org/eng

The GCC is a regional body made up of Arab States in the Gulf region of the world. The GCC serves as an environment for co-operation on matters of the Gulf region, including infrastructure, security, etc.

GULF CENTRE FOR CRIMINAL INTELLIGENCE (GCCI)

n/p

The GCCI is based in Doha, Qatar and was established by the UNODC to assist in coordination efforts against crime in the Gulf. The GCCI works closely with the GCC in that representatives of law enforcement agencies from the members of the GCC participate in the GCCI.

ASSOCIATION OF CARIBBEAN COMMISSIONERS OF POLICE (ACCP)

http://www.accpolice.org/cms/default.asp?V_SITE_ID=6

The ACCP is a regional body composed of Caribbean countries' law enforcement coordinating efforts to combat crime relevant to the region.

SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC)

http://www.saarc-sec.org/main.php

SAARC presents an opportunity for South Asian countries to work regionally on issues pertinent to their countries, particularly social and economic development.

NATIONAL

ATF

http://www.atf.gov/firearms/index.htm

The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) is based and run in the United States. This law enforcement agency deals mainly with illegal use and trafficking of alcohol, tobacco, firearms, arson, and explosives. This agency is the primary organization within the United States dedicated to criminal activity centered on firearms.

FBI

http://www.fbi.gov

The Federal Bureau of Investigation is one of the major agencies for the United States, operating as both a criminal investigation agency and intelligence agency for the Department of Justice. Because of its size and breadth, this agency covers a wide range of subject matter.

South African Police Service

http://www.saps.gov.za/crime_prevention/firearms.htm

The official national law enforcement agency in South Africa, SAPS devotes time and energy to combating illegal activity involving firearms. SAPS is the agency to go to with any firearm issue in South Africa such as accreditation, licensing, etc.

Brazilian Federal Police

http://www.dpf.gov.br

translated:

(**http://translate.google.fr/translate?hl=fr&ie=UTF-8&sl=pt&tl=en&u=http://www.dpf.gov.br/**)

This link leads to the official website for the Federal Police in Brazil, only available in Portuguese. The Federal Police are in charge of matters pertaining to firearms in Brazil, such as weapons registration.

NGO'S

SMALL ARMS SURVEY

http://www.smallarmssurvey.org

A valuable organization to the subject of Small Arms and Light Weapons (SALW), the small arms survey produces literature, conducts statistical research, and offers tools to international bodies as well as individual states in terms of learning about the subject of firearms, the illegal use of them, and their involvement in all security and conflict areas of the world.

GROUP FOR RESEARCH AND INFORMATION ON PEACE AND SECURITY (GRIP)

http://www.grip.org/en/default.asp

GRIP is a European based organization that has similar activities and services as BICC. Research and consultation is devoted to topics pertaining to peace and security (from an international perspective). Formed out of the Cold War, GRIPs areas of research have since expanded and morphed in order to be compatible with today's international arena. One of the prime focuses of GRIP is the proliferation of small arms and control of the arms trade (similar to many research-based NGOs with ties to the UN).

BONN INTERNATIONAL CENTER FOR CONVERSION (BICC)

http://www.bicc.de/index.php/our-work/salw

BICC follows the theme set by the UN in making the proliferation of Small Arms and Light Weapons (SALW) a main issue to which they concern their resources with. Similar to GRIP, BICC is a sort of consulting and data collector of global information for SALW for international bodies such as the UN.

SAFERWORLD

http://www.saferworld.org.uk/pages/salw_page.html

Saferworld is a kindred organization to GRIP and BICC in that it is a sort of research institute that supports and consults for international bodies and countries on ways to combat SALW.

PRIO

http://www.prio.no/Research-and-Publications/Programmes/Security

The International Peace Research Institute in Oslo (PRIO), is a research based institute, merging policy-based research with academia-based research. Among their programmes, the security programme and the conflict resolution and peace building programme contain international approaches that are aimed at seeking solutions to eliminating threats that are a danger to the security of humanity.

SIPRI

http://www.sipri.org

The Stockholm International Peace Research Institute is an independent 'think tank' that focuses its work on international security, arms control, and disarmament. SIPRI is expanding their research on Small Arms and Light Weapons (SALW) in terms of transfers of SALW, effects in conflict areas, tracking illegal and legal SALW, etc.

IANSA

http://www.iansa.org

This is a site ran by an NGO recognized by the UN that stands for International Action Network on Small Arms. Here you may find a broad introduction into the different regions, topics, and policies in place/in the works towards eliminating the misuse and illegal activities surrounding small arms.

World Security Institute (WSI)

http://www.worldsecurityinstitute.org

This non-profit organization focuses on independent research and journalism on global affairs. A topic of interest is Small Arms and Light Weapons (SALW), which the Center for Defense Information (CDI) focuses on.

CENTER FOR DEFENSE INFORMATION (CDI)

http://www.cdi.org

As an initiative of the WSI, the CDI focuses mainly on US national security, including SALW issues pertinent to US Affairs.

PRIVATE SECTOR

Forensic Technology

http://www.forensictechnology.com

Forensic Technology is a Canadian based private company that concerns itself with ballistic technology for use by law enforcement around the world. One of its more well known products is the Integrated Ballistics Identification System (IBIS®), which is needed to join the INTERPOL Ballistic Information Network (IBIN), the latest international tool for combating crime that jumps borders.

JANE'S

http://www.janes.com

Jane's is a United Kingdom-based publishing company that deals in information and analysis as well as consultation. Three of the five priorities for the company are public safety, security, and law enforcement, all of which have varying degrees of relation to firearms.

PUBLICATIONS

The 13 Critical Tasks

http://www.forensictechnology.com/13

Written by Pete Gagliardi and leveraging his nearly 40 years of experience in law enforcement, The 13 Critical Tasks approaches the topic of solving firearm crime by using the presumptive approach that spans all facets of the system from policy and prosecutorial to investigative and inventory.

The presumptive approach to the investigation of firearm crime presumes that there is an abundance of data inside – which is transferred to fired bullets and cartridge cases – and outside every crime gun. When fully exploited, this data can be used to generate actionable information of tactical and strategic crime solving value.

PART 4: ADDITIONAL RESOURCES
ACKNOWLEDGEMENTS

INTERPOL gratefully acknowledges the contributions, dedication, and hard work of the INTERPOL Ballistic Information Network Steering Committee participants and others.

Denmark

Mrs. Bonnie Ludvigsen-Laboratory Denmark

Mr. Henrik Larsen-Laboratory Denmark

Mr. Knud Verner Pedersen-NCB Denmark

Norway

Mr. Gøran Dyvesveen-Laboratory Norway

Mr. Pål Inge Brekken-NCB Norway

Spain

Mr. Jose Francisco Dominguez Sanchez-Laboratory Spain

Mr. Julian Sanchez Acha-NCB Spain

The Netherlands

Mr. Oscar Pieper-Laboratory Netherlands

Mr. Alex Korte-NCB Netherlands

United Kingdom

Mr. Martin Parker-Laboratory United Kingdom

Mr Gregg Taylor-Laboratory United Kingdom

Mr. David Fowkes-NCB United Kingdom

Republic of Ireland

Mr. Mark Collender-Laboratory Republic of Ireland

Ms. Orla McParland-NCB Republic of Ireland

Forensic Technology Inc.

Mr. Pete Gagliardi

Mr. Jim Lightfoot

Mr. Andrew Boyle

Mr. James Hopper

Mr. Paul Murphy

Mr. Giuliano Carota

Mr. Andre Demers

INTERPOL General Secretariat

Mr. Jean-Michel Louboutin

Mr. David Apeatu-Asante

Mr. Denis Talarmin

Ms. Tracy Hite

Ms. Marie-Jacques Cantinelli

Mr. Fabrizio Di Carlo

Special thanks goes to INTERPOL Secretary General Ronald K. Noble and Forensic Technology President Robert A. Walsh, without whose support, IBIN would not exist.

© INTERPOL 2012. ALL RIGHTS RESERVED.
DOC 02132012